LISTING OF THE CLAIMS

This listing of claims, including the amendments indicated below, replaces all prior versions, and listings, of claims in the application

1-49. (Canceled)

50. (Currently Amended) An optical-spectrum flattening method ~~characterized by~~ comprising:

a first step of obtaining a discrete spectrum of a mode spacing corresponding to a repetition frequency Δf using an output light obtained by modulating an amplitude or phase of a continuous wave (CW) output from a single-wavelength light source using [[a]] the repetition frequency Δf~~, or an output light output from a pulse light source or an optical pulse output circuit for outputting a pulsed light of the repetition frequency Δf~~; and

a second step of modulating said discrete spectrum of the mode spacing Δf by frequency Ω, while Ω < 2fm, when a band of said discrete spectrum is 2fm.

51. (Currently Amended) An optical-spectrum flattening method according to claim 50, ~~characterized in that~~ wherein:

the repetition frequency Δf ~~and a light of a pulse width (~~full width at half maximum[[)]] t0 have a relationship t0 <<(1/Δf)[[,]]; and

the ~~pulse width (~~full width at half maximum~~) of a~~ of the light pulse is expanded.

52. (Currently Amended) An optical-spectrum flattening method according to claim 51, ~~characterized in that~~ wherein:

the ~~pulse width (~~full width at half maximum~~) of a~~ of the light pulse is expanded using a dispersive medium.

53. (Currently Amended) An optical-spectrum flattening method according to claim 50, ~~characterized in that~~ wherein:

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during said second step, a modulator is used which modulates an amplitude or phase of a temporal waveform composed of said discrete optical spectrum.

54. (Currently Amended) An optical-spectrum flattening method according to claim 53, ~~characterized in that~~ wherein:

said modulator for modulating the amplitude or phase is driven by a signal voltage output from an oscillator at a particular frequency.

55. (Currently Amended) An optical-spectrum flattening method according to claim 54, ~~characterized in that~~ wherein:

the signal voltage from said oscillator is a sinusoidal wave.

56. (Currently Amended) An optical spectrum flattening method according to claim 54, ~~characterized in that~~ wherein:

[[if]] a phase modulator is used during said second step[[,]]; and

a frequency shift of said discrete spectrum is regulated by varying a modulation index.

57. (Currently Amended) An optical-spectrum flattening method according to claim [[54]] 56, ~~characterized in that~~ wherein:

[[the]] a frequency shift of said discrete spectrum is regulated by causing a multiplier or a divider to multiply or divide an output signal from the oscillator to ~~varying~~ vary a modulated frequency thereof.

58. (Currently Amended) An optical-spectrum flattening method according to claim 54, ~~characterized in that~~ wherein:

a phase modulator is used during said second step[[,]]; and

level deviations among modes are regulated by causing the phase modulator to shift a phase of a modulating signal for driving the modulator.

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59. (Currently Amended) An optical-spectrum flattening method according to claim 53, ~~characterized in that~~ wherein:

a ~~combination of a~~ first modulator ~~A for modulating~~ is used to modulate the amplitude or phase of said continuous wave (CW) output from said single-wavelength light source; and

a second modulator ~~B for modulating~~ is used to modulate an amplitude or phase of a modulated wave from the first modulator ~~A is used in all cases~~.

60. (Currently Amended) An optical-spectrum flattening apparatus ~~characterized by~~ comprising:

first means for obtaining a discrete spectrum of a mode spacing corresponding to a repetition frequency Δf using an output light obtained by modulating an amplitude or phase of a continuous wave (CW) output from a single wavelength light source using [[a]] the repetition frequency Δf~~, or an output light output from a pulse light source or an optical pulse output circuit for outputting a pulsed light of the repetition frequency Δf~~; and

second means for modulating said discrete spectrum of the mode spacing Δf with a frequency Ω, while Ω <2fm, when a band of said discrete spectrum is 2fm.

61. (Currently Amended) An optical-spectrum flattening apparatus according to claim 60, ~~characterized in that~~ wherein:

the repetition frequency Δf and a light of a ~~pulse width (~~full width at half maximum[[)]] t0 have a relationship t0 <<(1/Δf); and ~~, the pulse width (~~

the full width at half maximum~~) of a~~ of the light ~~pulse~~ is expanded.

62. (Currently Amended) An optical-spectrum flattening method according to claim 51, ~~characterized in that~~ wherein:

during said second step, a modulator is used which modulates an amplitude or phase of a temporal waveform composed of said discrete optical spectrum.

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63. (Currently Amended) An optical-spectrum flattening method according to claim 52, ~~characterized in that~~ wherein:

during said second step, a modulator is used which modulates an amplitude or phase of a temporal waveform composed of said discrete optical spectrum.

64. (Currently Amended) An optical-spectrum flattening method according to claim 62, ~~characterized in that~~ wherein:

said modulator for modulating the amplitude or phase is driven by a signal voltage output from an oscillator at a particular frequency.

65. (Currently Amended) An optical-spectrum flattening method according to claim 63, ~~characterized in that~~ wherein:

said modulator for modulating the amplitude or phase is driven by a signal voltage output from an oscillator at a particular frequency.

66. (Currently Amended) An optical-spectrum flattening method according to claim 64, ~~characterized in that~~ wherein:

the signal voltage from said oscillator is a sinusoidal wave.

67. (Currently Amended) An optical-spectrum flattening method according to claim 65, ~~characterized in that~~ wherein:

the signal voltage from said oscillator is a sinusoidal wave.

68. (Currently Amended) An optical-spectrum flattening method according to claim 64, ~~characterized in that~~ wherein:

[[if]] a phase modulator is used during said second step[[,]]; and

a frequency shift of said discrete spectrum is regulated by varying a modulation index.

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69. (Currently Amended) An optical-spectrum flattening method according to claim 65, ~~characterized in that~~ wherein:

[[if]] a phase modulator is used during said second step[[,]]; and

a frequency shift of said discrete spectrum is regulated by varying a modulation index.

70. (Currently Amended) An optical-spectrum flattening method according to claim [[65]] 69, ~~characterized in that~~ wherein:

[[the]] a frequency shift of said discrete spectrum is regulated by causing a multiplier or a divider to multiply or divide an output signal from the oscillator to ~~varying~~ vary a modulated frequency thereof.

71. (Currently Amended) An optical-spectrum flattening method according to claim 65, ~~characterized in that~~ wherein:

[[the]] a frequency shift of said discrete spectrum is regulated by causing a multiplier or a divider to multiply or divide an output signal from the oscillator to ~~varying~~ vary modulated frequency thereof.

72. (Currently Amended) An optical-spectrum flattening method according to claim 64, ~~characterized in that~~ wherein:

a phase modulator is used during said second step[[,]]; and

level deviations among modes are regulated by causing the phase modulator to shift a phase of a modulating signal for driving the modulator.

73. (Currently Amended) An optical-spectrum flattening method according to claim 65, ~~characterized in that~~ wherein:

a phase modulator during said second step[[,]]; and

level deviations among modes are regulated by causing the phase modulator to shift a phase of a modulating signal for driving the modulator.

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74. (Currently Amended) An optical-spectrum flattening method according to claim 62, ~~characterized in that~~ wherein:

~~a combination of~~ a first modulator ~~A for~~ is used for modulating the amplitude or phase of said continuous wave (CW) output from said single-wavelength light source; and

a second modulator [[B]] is used for modulating an amplitude or phase of a modulated wave from the first modulator ~~A is used in all cases~~.

75. (Currently Amended) An optical-spectrum flattening method according to claim 63, ~~characterized in that~~ wherein:

~~a combination of~~ a first modulator [[A]] is used for modulating the amplitude or phase of said continuous wave (CW) output from said single-wavelength light source; and

a second modulator [[B]] is used for modulating an amplitude or phase of a modulated wave from the modulator ~~A is used in all cases~~.

76. (New) An optical-spectrum flattening method comprising:

a first step of obtaining a discrete spectrum of a mode spacing corresponding a repetition frequency Δf using an output light from a pulse light source or an optical pulse output circuit for outputting a pulsed light of the repetition frequency Δf; and

a second step of modulating said discrete spectrum of the mode spacing Δf by frequency Ω, while $\Omega < 2fm$, when a band of said discrete spectrum is 2 fm.

77. (New) An optical-spectrum flattening method according to claim 76, wherein:

the repetition frequency Δf and a light pulse of a full width at half maximum t0 have a relationship $t0 \ll (1/\Delta f)$; and

the full width at half maximum of the light pulse is expanded.

78. (New) An optical-spectrum flattening method according to claim 77, wherein:

the full width at half maximum of the light pulse is expanded using a dispersive medium.

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79. (New) An optical-spectrum flattening method according to claim 76, wherein:

during said second step, a modulator is used which modulates an amplitude or phase of a temporal waveform composed of said discrete optical spectrum.

80. (New) An optical-spectrum flattening method according to claim 79, wherein:

said modulator for modulating the amplitude or phase is driven by a signal voltage output from an oscillator at a particular frequency.

81. (New) An optical-spectrum flattening method according to claim 80, wherein:

the signal voltage from said oscillator is a sinusoidal wave.

82. (New) An optical-spectrum flattening method according to claim 80, wherein:

a phase modulator is used during said second step; and

a frequency shift of said discrete spectrum is regulated by varying a modulation index.

83. (New) An optical-spectrum flattening method according to claim 82, wherein:

a frequency shift of said discrete spectrum is regulated by causing a multiplier or a divider to multiply or divide an output signal from the oscillator to vary a modulated frequency thereof.

84. (New) An optical-spectrum flattening method according to claim 80, wherein:

a phase modulator is used during said second step; and

level deviations among modes are regulated by causing the phase modulator to shift a phase of a modulating signal for driving the modulator.

85. (New) An optical-spectrum flattening method according to claim 79, wherein:

a first modulator is used to modulate the amplitude or phase of said light output from said pulse light source or said pulse output circuit; and

a second modulator is used to modulate an amplitude or phase of a modulated wave from the first modulator.

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86. (New) An optical-spectrum flattening apparatus comprising:

first means for obtaining a discrete spectrum of a mode spacing corresponding a repetition frequency Δf using an output light output from a pulse light source or an optical pulse output circuit for outputting a pulsed light of the repetition frequency Δf; and

second means for modulating said discrete spectrum of the mode spacing Δf with a frequency Ω, while $\Omega < 2$ fm, when a band of said discrete spectrum is 2fm.

87. (New) An optical-spectrum flattening apparatus according to claim 86, wherein:

the repetition frequency Δf and a light pulse of a full width at half maximum t0 to have a relationship $t0 \ll (1/\Delta f)$; and

the full width at half maximum of the light pulse is expanded.

88. (New) An optical-spectrum flattening method according to claim 77, wherein:

during said second step, a modulator is used which modulates an amplitude or phase of a temporal waveform composed of said discrete optical spectrum.

89. (New) An optical-spectrum flattening method according to claim 78, wherein:

during said second step, a modulator is used which modulates an amplitude or phase of a temporal waveform composed of said discrete optical spectrum.

90. (New) An optical-spectrum flattening method according to claim 88, wherein:

said modulator for modulating the amplitude or phase is driven by a signal voltage output from an oscillator at a particular frequency.

91. (New) An optical-spectrum flattening method according to claim 89, wherein:

said modulator for modulating the amplitude or phase is driven by a signal voltage output from an oscillator at a particular frequency.

92. (New) An optical-spectrum flattening method according to claim 90, wherein:

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the signal voltage from said oscillator is a sinusoidal wave.

93. (New) An optical-spectrum flattening method according to claim 91, wherein:
the signal voltage from said oscillator is a sinusoidal wave.

94. (New) An optical-spectrum flattening method according to claim 90, wherein:
a phase modulator is used during said second step; and
a frequency shift of said discrete spectrum is regulated by varying a modulation index.

95. (New) An optical-spectrum flattening method according to claim 91, wherein:
a phase modulator is used during said second step; and
a frequency shift of said discrete spectrum is regulated by varying a modulation index.

96. (New) An optical-spectrum flattening method according to claim 90, wherein:
a frequency shift of said discrete spectrum is regulated by causing a multiplier or a divider to multiply or divide an output signal from the oscillator to vary a modulated frequency thereof.

97. (New) An optical-spectrum flattening method according to claim 91, characterized in that:
a frequency shift of said discrete spectrum is regulated by causing a multiplier or a divider to multiply or divide an output signal from the oscillator to vary a modulated frequency thereof.

98. (New) An optical-spectrum flattening method according to claim 90, wherein:
a phase modulator is used during said second step; and
level deviations among modes are regulated by causing the phase modulator to shift a phase of a modulating signal for driving the modulator.

99. (New) An optical-spectrum flattening method according to claim 91, wherein:
a phase modulator is used during said second step; and

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level deviations among modes are regulated by causing the phase modulator to shift a phase of a modulating signal for driving the modulator.

100. (New) An optical-spectrum flattening method according to claim 88, wherein:

a first modulator is used to modulate the amplitude or phase of said light output from said pulse light source or said pulse output circuit; and

a second modulator is used to modulate an amplitude or phase of a modulated wave from the first modulator.

101. (New) An optical-spectrum flattening method according to claim 89, wherein:

a first modulator is used to modulate the amplitude or phase of said light output from said pulse light source or said pulse output circuit; and

a second modulator is used to modulate an amplitude or phase of a modulated wave from the first modulator.

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